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Decentralization and Public Delivery of Health Care Services in India*

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Abstract

This paper examines delivery of public health care services in India, in the broader context of decentralization. It provides an overview of the basic features and recent developments in intergovernmental fiscal relations and accountability mechanisms, and examines the implications of these institutions for the quality of public service delivery. It then addresses recent policy proposals on the public provision of health care, in the context of decentralization. Finally, it makes suggestions for reform priorities to improve public health care delivery.

JEL codes: P26, P35, H1, H7

Keywords: federalism, decentralization, intergovernmental relations, accountability, service delivery, health care

1. Introduction

India spends about 5 percent of its GDP on health care: the official figure is a little over 6 percent, but a comprehensive health expenditure accounting exercise put the figure at 4.6 percent in 2001-02 (Government of India, 2005). This proportion is roughly in line with developing countries at similar income levels. Where India appears to be an outlier is in the proportion of health spending that is undertaken in the public sector. At about 20 percent, the Indian figure is well below most other countries. Of course, the ultimate test is in terms of outcomes. Here, also, India does rather poorly: it has failed to do as well in health care outcomes as might be predicted by its average income level. This relative performance stands in contrast to China, for example (Table 1), which does better than average.

Policy makers have naturally been concerned by India's relative failure in achieving good health outcomes, and spending more on health has been one solution that has been explored. Another issue is the quality of the spending that already takes place. The lack of proper incentives for delivery of public health services is widely recognized as

a factor in spending quality, and changes in delivery mechanisms have been proposed to tackle that problem.

For example, in 2001, India's Planning Commission directly linked solving the major incentive problems in public delivery of health care to the process of decentralization: "One of the major factors responsible for poor performance in hospitals is the absence of personnel of all categories who are posted there. It is essential that there is appropriate delegation of powers to Panchayati Raj Institutions (PRIs) [rural local governments] so that there is local accountability of the public health care providers, and problems relating to poor performance can be sorted out locally" (Planning Commission, 2001). The question is whether and how decentralization can improve public sector delivery of health care in India, and that is the focus of this paper.

The rest of the paper is structured as follows. Section 2 discusses the nature of health care services, and summarizes the pattern of public sector health spending in India. Section 3 reviews the basic features of intergovernmental fiscal relations, recent developments, and accountability mechanisms for the provision of subnational public goods. Section 4 examines the impacts of the intergovernmental system and accountability mechanisms

on the quality of public service delivery, including health care. Section 5 specifically addresses recent public policy proposals on the provision of health care, in the context of decentralization. Section 6 offers a concluding assessment with suggestions for reform priorities to improve public health care delivery.

2. Health Care in India

Within the broader context of public service delivery, health care has several special features. More so than any other public good, health care has the characteristics of a “credence” good, where neither pre-consumption search nor actual experience is sufficient to reveal the quality of the service provided to the recipient. This property implies that market provision is subject to severe potential problems associated with asymmetries of information.¹ A related issue is the complexity of health care, which makes information exchange and the establishment of reputations more difficult. Hence, private and public provision of health care are both likely to be subject to inefficiencies and quality problems. Indeed, there is evidence of these problems even for well-off urban consumers in India (Das and Hammer, 2005, 2007)

as well as in poor rural areas (Banerjee, Deaton and Duflo, 2004a,b).

Health care is also distinguished by the diversity of services that are covered by the term. Care may involve prevention or treatment of disease, treatment may be for acute or chronic problems, health problems may be exclusively individual or have collective dimensions, be specific to particular groups (e.g., children or women) and, increasingly, health care includes attention to broader aspects of well-being. From an economic policy perspective, the key issues are the degree of "publicness" or spillovers associated with each component of health care, the minimum efficient scale for provision, and the potential for economies of scope, either in costs or benefits.

The heterogeneity of health care services means that it is useful to break down the pattern of spending in this category. Furthermore, differences in spillovers and scale economies for different services may favor organizing provision at alternative levels of government. Table 2 provides basic data on patterns of public sector health spending in India. It can be seen that the states undertake the bulk of public spending on health. The figures for local government are probably overstated, and include

spending that is effectively determined by state governments. In addition, health care workers are almost always state employees. Other points of note are the importance at all levels of curative spending, and the high proportionate cost of administration in urban areas. The latter undoubtedly is a function of the fact that running large hospitals is a major component of urban health spending.

It is impossible to infer too much from such aggregate figures, with respect to whether the observed pattern of spending is in some sense the "right" one. Certainly, there is clear conceptual understanding among policymakers of the multifaceted nature of health care, the need to make spending decisions at the appropriate scale, and the problems of poor incentives in the current system. However, before tackling the possible linking of fiscal decentralization and improvements in public delivery of health care services, it is necessary to review the institutional framework.

3. Intergovernmental Fiscal Relations²

India contains multiple languages, religions and ethnicities, and over one billion people. It has sustained a working democracy for six decades at relatively low

levels of income, and is also distinguished by its institutional richness and the relative stability of these institutions (Kapur, 2005). The Indian constitution explicitly incorporates a federal structure, with states as subnational entities that are assigned specified political and fiscal authorities. The constitution gives the central government residual authority and considerable sovereign discretion over the states, implying a relatively centralized federation.

Institutions

The main expression of statutory constitutional authority is through directly elected parliamentary-style governments at the national and state levels. Recently, directly elected local government bodies have also been created. In the initial years after independence, the Indian National Congress (INC) - the nationalist coalition that had won independence - ruled at the center as well as the states. Over time, though, regional parties have risen in prominence and, in addition to dominating subnational politics in several states, now also hold the balance of power in national government coalitions. Economic reforms, in the direction of greater market orientation and openness to international trade and investment, which began in the

1980s and 1990s, paralleled this gradual process of political decentralization.

India's initial political centralization was also reflected in bureaucratic institutions. The key component of the bureaucracy is the Indian Administrative Service (IAS), whose members are chosen by a centralized process and trained together. Bureaucratic functioning in India is relatively transparent and rule-bound, though the traditional economic policy approach of central planning vested the bureaucracy with considerable discretion in such matters. IAS members remain influential at all levels of government, in policy making and implementation.

In 1993, after decades of debate on decentralization, two constitutional amendments gave legal recognition, enhanced political status, and ostensibly greater expenditure responsibilities to urban and rural local governments. The impetus came from normative goals of promoting greater citizen involvement, national political considerations of balancing the power of states that were exerting greater autonomy, and hopes for improving the quality and effectiveness of public spending by pushing decision-making on local public goods down to the local level.

The amendments reduced state governments' discretionary control over elections to local government bodies (e.g., Rao and Singh, 2003). They also changed tax and expenditure assignments to local governments by specifying their authority and responsibilities more fully, and instituted a formal system of state-local fiscal transfers. Problems with the new legislation and its implementation include lack of clarity, mismatches between revenue and expenditure authority, and lack of local administrative capacity.

Responsibilities

The constitution laid out the areas of responsibility of the central and state governments, with respect to expenditure authority, revenue-raising instruments, and legislation needed to implement either. Expenditure responsibilities are specified in separate Union and State Lists, with a Concurrent List covering areas of joint authority. The major subjects assigned to the states include public order, public health, agriculture and irrigation. Thus the division of health spending noted in Table 2 is an outcome of constitutional assignments. The states also assume a significant role for subjects in the Concurrent List, such as education and social insurance.

The constitution assigned tax powers by creating exclusive tax categories for the center and states. Most broad-based taxes were assigned to the center, including taxes on income from non-agricultural sources, corporation tax, and customs duty. A long list of taxes was assigned to the states, but only the tax on the sale of goods has turned out to be significant for revenues. This narrow effective tax base is largely a result of the political power of rural landed interests that has eroded the use of taxes on agricultural land or incomes.

The situation with respect to local governments is somewhat distinct from the center-state division of powers. The 1993 amendments left legislative details to the states, since local government was, and remains, in the State List. Furthermore most local responsibilities are subsets of those in the State List. There is no "Local List," but the constitution now includes separate lists of responsibilities and powers of rural and urban local governments.³ For example, rural local governments are now potentially responsible for "health and sanitation, including hospitals, primary health centers and dispensaries," family welfare, and "women and child development."

Actual details of assignment of tax powers and expenditure responsibilities to local governments have varied across the states. In general, the states have chosen to provide limited revenue autonomy to local governments, especially rural bodies. Local governments also have little legislative autonomy. Thus, neither revenue authority nor legislative autonomy has been enhanced significantly to match the new political decentralization.

Intergovernmental transfers

The combination of the constitutional assignments of tax and expenditure authority, their detailed implementation, and the responses of governments and taxpayers led to a substantial vertical fiscal imbalance. In 2005-2006, the states raised about 38 percent of combined government revenues, but incurred about 60 percent of expenditures. Transfers from the center, including tax sharing, grants and loans made up most of the difference.

Local governments are even more dependent on transfers from higher levels. In 2002-03, rural local governments' own source revenues were less than 7 percent of their total revenue and less than 10 percent of their current expenditures. Urban local bodies did somewhat better: they

raised about 58 percent of their revenue and covered almost 53 percent of their expenditure from own revenue sources. Aggregate local government expenditure was only about 5 percent of total government spending at all levels, while local revenue from own sources was only 1 percent of total government revenue.

Fiscal imbalances for state governments were anticipated in the constitution, which mandated a Finance Commission (FC) that recommends on center-state transfers. The FC served as a model for State Finance Commissions (SFCs), created in 1993 to recommend on state-local transfers. In both cases, other transfer channels also exist. The creation of an apparatus of central planning in the 1950s led to a complex system of plan transfers involving both subnational levels. In addition, intertwined with the planning system, there are various specific-purpose transfers from central and state government ministries to lower levels.

The current constitutional tax sharing arrangement entitles the states to an overall share of the consolidated fund of India. The shares of the center and the states, and the states' individual shares are determined by a new FC every five years. Tax sharing is unconditional, based on an elaborate formula. The FC also recommends grants,

typically based on projected gaps between non-plan current expenditures and post-tax devolution revenues. These grants are mostly unconditional, although some commissions have made closed-ended, specific purpose non-matching grants for areas such as health and education.

A separate body, the Planning Commission (PC), makes grants and loans for implementing development plans. The PC also coordinates central ministry transfers: almost one-third of center-state transfers are made through these channels. Plan transfers are made using a different formula than that of the FC. In contrast to the FC, PC transfers are conditional, being earmarked for particular "developmental" purposes. The process for determining plan transfers involves bargaining between the PC and the states.

Central ministry transfers are categorical, and typically made to their counterparts in the states for specified projects, with (centrally sponsored schemes) or without (central sector projects) state cost sharing. Health, education, social insurance and rural infrastructure have all received increased attention and funding in recent years. However, monitoring and coordination of these transfers are relatively ineffective. There are well over 100 schemes, and attempts to

consolidate them into broad sectoral programs have been unsuccessful.

The new SFCs, have struggled to create a system of formal state-local transfers (Finance Commission, 2004, Chapter 8). There are problems with the quality of analysis, methodologies used, and implementation of transfers in various states. Some states have been slow to constitute SFCs, and even ignored their recommendations at times. Nevertheless, the new system has made local government financing more transparent. Available data (Finance Commission, 2004, Chapter 8; World Bank, 2004) indicate that rural local governments, in particular, rely heavily on grants, often with restrictive conditions attached, so measured rural local revenues include a large component whose spending is predetermined by higher-level agencies (Rajaraman, 2001).

Accountability Mechanisms

Accountability in governance means that members and agents of government (i.e., politicians, employees and contractors) are ultimately answerable to the citizens who provide the funds for their functioning, through taxes, fees and loans. For most components of government, accountability is somewhat indirect, operating through

organizational hierarchies. Only politicians are directly answerable to citizens through elections, and these are based on aggregate and incomplete assessments by citizens of politicians' performance.

Hierarchical accountability mechanisms have been commonly used in India, often operating through national political party hierarchies. State-local hierarchical accountability in the political arena was much more extreme. Before the constitutional amendments on local government, provisions for direct rural local elections could be and often were ignored at the discretion of state governments (Dillinger, 1994).

In practice, strong hierarchical political control did not translate into good performance in delivery of public goods and services. Day-to-day accountability mechanisms, operating mainly through the bureaucracy, may be more important than extreme measures such as dismissal of elected governments. States have a reasonably well-defined locus of authority, and longstanding, competent bureaucracies (the IAS), though corrupt politicians at the state level can override internal bureaucratic accountability mechanisms. Local governments still lack independent bureaucracies, which constrains their ability to act, even if funds are available. The central government

and FC have attempted to increase the accountability of state governments for local government performance by conditioning transfers. The FC has also tried to directly support local government capacity building through various conditional and unconditional center-local transfers, though these must be channeled through the states.

Democracy provides an alternative to hierarchical accountability mechanisms. Theoretical models of the democratic political process typically assume responsiveness (e.g., Downs, 1957), driven by politicians' preferences for re-election. This responsiveness may be to individual voter preferences, or to well-defined interest groups, the latter leading to distortions. Chhibber (1995) explains the deepening of interest group influence in India in terms of the intensifying needs of political competition. Political distortions also exist in the intergovernmental transfer system (e.g., Rao and Singh, 2002; Das-Gupta, Dhillon and Dutta, 2004), and in subnational spending patterns (e.g., Rao, 1979; Dutta, 2000). Thus, electoral accountability has not been very effective for the delivery of public services.

However, recent work at the local level indicates that decentralization of electoral accountability may improve participation, decision-making, and perceptions of quality

of service delivery (e.g., Jha, Rao and Woolcock, 2005; Chaudhuri and Heller, 2003; Chaudhuri, 2005; Besley, Pande, Rahman and Rao, 2006; and Bardhan and Mookherjee, 2006). Some of this evidence motivates the continued interest in decentralization as a means of improving delivery of public services such as health care.

4. Implications for Service Delivery

Despite elaborate institutional mechanisms within and across levels of government in India, service delivery is poor at all levels of government (World Bank, 2006). The problem is more acute at the subnational level because day-to-day and basic services, such as health care, education, water and sanitation are mainly the responsibility of subnational tiers, which are disadvantaged with respect to fiscal and administrative capacity. Increases in patronage politics and rent-seeking over time have resulted in a decline in the quality of public expenditure. Arguably, those with the greatest distance (social, political or geographical) from the locus of decision-making suffer the most, which suggests that reduction of this distance may be a beneficial direction of reform.

There are several kinds of evidence for the poor quality of service delivery, including tangible public

goods and services, as well as various forms of social insurance. One is measurement of performance and outcomes, such as life expectancy or infant mortality. A second is evidence based on inputs and processes of government, such as corruption, overall spending patterns, and employee absenteeism. A third is the response of citizens, through exit from the system by use of private alternatives, and their voting behavior.

Measures of state level human development performance provide a first-level indicator of inefficiency, since better-performing states provide a standard against which others can be judged. Table 3 summarizes the outcomes of India's 14 major states in terms of a Human Development Index (Planning Commission, 2002). The HDI aggregates eight outcomes, including several indicators or determinants of health: per capita expenditure, headcount poverty rate, literacy rate, a formal education enrollment index, infant mortality rate, life expectancy, access to safe water and access to housing constructed with permanent materials. The variation in the HDI across states is not decreasing over time (Singh et al, 2003). Neither overall nor public sector per capita health spending (Table 3) appears to have a positive correlation with the HDI.

Second, studies of the functioning of government in India suggest pervasive examples of inefficiency in processes of public service delivery, including the functioning of core administrations, plan and ministry projects, and public sector enterprises. For many states, subsidies and salaries are taking a larger share of expenditure (e.g., Howes and Murgai, 2005), and public sector enterprises are over-staffed. Budgeting procedures, accounting and auditing methods, personnel policies and tax collection can all be improved (Finance Commission, 2004; World Bank, 2005), particularly at subnational levels. Clearly, these are general reforms that are not restricted to health care delivery mechanisms.

High levels of corruption also contribute to inefficiency of public service delivery. Examples include industry regulation (Dollar et al., 2002) and state government job assignments (Wade, 1985). "Retail corruption" is widespread in health care, electric power, police and judiciary functions, taxation and land administration, and education (Transparency International, 2002).

Finally, the low efficiency of delivery of health and education in rural areas because of poor performance (absenteeism and low effort) by government employees is

well documented (e.g., Drèze and Gazdar, 1996; PROBE, 1999; World Bank, 2006; Howes and Murgai, 2005; Chaudhury et al., 2006; Kremer et al., 2005). There is some evidence that institutional innovations that correct frontline provider incentives or modify the conditions of provision can improve efficiency (e.g., Banerjee et al., 2007; Duflo and Hanna, 2005), and that decentralization of accountability systems can improve incentives if implemented effectively, as in the Madhya Pradesh Education Guarantee Scheme (e.g., Sharma and Gopalakrishnan, 2001). However, decentralized monitoring is no panacea, since it may be subverted by collusion between government employees (e.g., nurses) and local administrators or politicians (Duflo, 2008).

The third indicator of inefficiency in public service delivery is private or self-provision. This is natural and acceptable if there are income effects (e.g., private vs. public transportation) associated with quality of service. Thus, the rich may always choose this route for many quasi-public goods. However, in the Indian case, the middle class and poor rely on costly and inefficient methods of private provision when public service delivery is poor in quality. Household-level generation and storage of electric power and private purchase of water from tankers are two pervasive examples in India. In this context, the high

proportion of private expenditure on health care in India, even by the poorest quintile (Hammer, Aiyar and Samji, 2006), is a telling indicator of lack of effective public sector health care provision.

In sum, poor quality of public service delivery is pervasive in India, including health care, but extending across the board to education, social insurance, and infrastructure provision. Thus, there must be systemic problems that should be traceable to the institutional structures summarized in section 3. At the same time, health care, because of its complexities and heterogeneous components, may present special challenges. The next section examines the direction of health care policy, including the role of decentralization, before a generalization is attempted in the conclusion.

5. Health Care Policy and Decentralization

The elaborate institutional structure of development planning, including public health services, has not been able to deliver good outcomes for the rural populations of India that need it most. In the introduction, a 2001 document from the PC was quoted, noting the lack of accountability, leading to pervasive absenteeism and low effort, and offering decentralization as a solution. Five

years later (Planning Commission, 2006), however, the same problems were highlighted once more: "Rural health care in most states is marked by absenteeism of doctors/health providers, low levels of skills, shortage of medicines, inadequate supervision/monitoring, and callous attitudes. There are neither rewards for service providers nor punishments to defaulters."

The government's own analysis identified a failure to decentralize enough as the reason for lack of improved health outcomes, "The 10th Plan aimed at providing essential primary health care, particularly to the underprivileged and underserved segments of our population. It also sought to devolve responsibilities and funds for health care to PRIs. However, progress towards these objectives has been slow and the 10th Plan targets ... have been missed" (Planning Commission, 2006).

A major policy response to the failures in public health services delivery was to launch a "National Rural Health Mission." Elements of this initiative were integrated district health plans, including "effective integration of health concerns with determinants of health like safe drinking water, sanitation and nutrition;" partnership with NGOs; flexible funds for state and local governments; appointment of an Accredited Social Health

Activist (ASHA) in each village; and "strengthening of public health infrastructure." There was also discussion of regulating the private sector to improve equity and reduce out of pocket expenses, and introduction of effective risk pooling mechanisms and social health insurance.

In some ways, the response to failure of implementation in targeted areas of policy was counter-intuitive, trying to do even more, and to operate on a broader front. The so-called integrated policy for public health services delivery seemed to veer toward a "kitchen-sink" approach, failing to address the different needs of different dimensions of health care. Thus, communicable disease control may require more centralized provision than basic curative care or reproductive services. It is also not clear that the district (the level of rural government directly below the state) is necessarily better than the state for coordinating different aspects of health policy and spending (Hammer, Aiyar and Samji, 2006).

Putting aside the complex issues of different dimensions of health needs, and just focusing on the idea that accountability requires adequate incentive provision, one can argue that the National Rural Health Mission does not address the fundamental structural issues with respect to past failures. First, intergovernmental transfers, even

when meant to be untied or flexible, fail to be so in practice. State governments often impose conditions on transfers to local governments that come from the FC, and are meant to be unconditional. Local governments are also often denied funds to which they are entitled, through long delays in release of the money by the state governments.⁴ Unfortunately, the central government lacks the power or control mechanisms to change this situation.

A second issue for decentralization is with respect to the monitoring and reward systems required for accountability. Even if funds are nominally devolved to local governments, they may not be in a position to alter the incentive systems operating for public employees such as health workers and teachers, who may collude with local government officials (Duflo, 2008), or still be immune from suffering any penalties for non-performance, even if they are local rather than state employees. The evidence on impacts of decentralization on public service delivery, briefly reviewed in the last section, finds positive results for welfare programs, which may be more easily monitored by citizens than health care delivery. To extend the benefits of decentralization, functions and functionaries may also need to be decentralized as well as

funds. In other words, expenditure autonomy and revenue autonomy must go hand in hand.

A third issue with respect to decentralization is whether local governments have the capacity and the ability to make efficient decisions on behalf of their constituents. This may be a particularly challenging problem for complex services such as health care. Community halls are much easier to build and even maintain, as compared to the ongoing delivery of even simple curative health care. A more general problem of capacity is the lack of accounting systems: in this case also, FC allocations for this purpose have not been effectively utilized (Finance Commission, 2004), probably because of disinterested or recalcitrant state governments.

Local governments may also lack the bargaining power to obtain such services at reasonable cost. In this context, Hammer, Aiyar and Samji (2006) suggest that local governments could form consortia to contract for health care services from outside providers such as NGOs. There is evidence from other countries (Bhushan et al., 2007) that contracting out provides some improvement in outcomes through better incentives. The role of decentralization in this case is in increasing the possibility of effective

choice and competition, compared to more centralized contracting.

Centralized knowledge generation and information provision with respect to health care best practice, provider quality, and health outcomes is an essential, and somewhat neglected complement to any decentralization of delivery. Policy-makers arguably fail to appreciate the need to improve information flows and lower the transaction costs of information exchange: this could be done through use of information technology, for example. There are some examples in rural health care, but they appear to be isolated applications.⁵

In fact, the spirit of the latest policy initiatives appears to be more in the direction of centralized coordination, rather than providing centralized infrastructure to improve information, combined with decentralization of funds, monitoring authority and expenditure autonomy to improve incentives. This is arguably a general failure of the implementation of decentralization to the local level in India, not restricted to public delivery of health care services. In this view, the problems are incomplete decentralization in several dimensions, and a lack of requisite capacity

building, both directly at the local level, and in central support systems for local government.

6. Conclusions

Poor quality and inefficient delivery of public services in India are pervasive problems, not just restricted to health care. Part of the problem lies in weak accountability mechanisms for individuals (politicians and government employees) and for organizations (ministries and various public sector enterprises). Recent empirical evidence suggests that decentralization has improved local responsiveness, targeting and service delivery in some cases.

However, political decentralization alone is likely to have limited benefits, unless accompanied by decentralization of funds, functions and functionaries. For complex, heterogeneous services such as health care, building local capacity is also a critical prerequisite for successful decentralization, which improves service delivery. Some health care components that are subject to economies of scale or spillovers may not be candidates for decentralization. In all cases, better information flows and centralized databases are important adjuncts for decentralized provision. This paper has argued that the

case for decentralization in recent Indian policy making on health care has not been conceptualized clearly. Neither has the manner of implementation, through district level plans.

More generally, it can be argued that all subnational governments in India have to rely too heavily on transfers from higher-level governments. These transfers can be uncertain, and restricted in ways that make their effective use difficult. Conditional transfers are typically poorly monitored. Centralized taxation and large transfers also destroy the linkage between benefits and costs for beneficiaries of public expenditure on service delivery. Hence, a more radical reform than increasing the flexibility of transfers would be to reduce the need for transfers by decentralizing some kinds of tax authority (Singh, 2006).

The case can also be made that, since many of the problems of effective local decentralization flow from the poor functioning of the states' political and administrative machinery, giving the states a firmer footing for their own revenues would allow them to address local government effectiveness in a less constrained manner. Paradoxically, a national goal of improving rural health outcomes may be achieved by increasing the fiscal

capacity of state governments, while simultaneously putting the onus on them to carry out their constitutional responsibilities for health care.

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Table 1: Comparative Health Indicators, 2003

	Low Income	India	China	Middle Income
Births attended by skilled health staff (% of total)		42.5*	96	
Immunization, measles (% of children ages 12-23 months)	61.52	56	84	86.43
Life expectancy at birth, total (years)	58.62	63.42	71.05	69.73
Mortality rate, infant (per 1,000 live births)	83.88*	64**	33*	35.4
Mortality rate, under- 5 (per 1,000)	127.66*	94*	41*	45.18
GNI per capita, Atlas method (current US\$)	438.53	530	1270	1938.11

*Year 2000, ** Year 2002

Source: World Bank World Development Indicators

Table 2: Patterns of Public Health Spending 2001-02

State	Central	State	Local (Rural)	Local (Urban)
Health spending by funds source*(Rs. Billion)	67.1	132.7	4.7	9.7
Health spending by channel**(Rs. Billion)	53.5	173.1	15.3	16.5
Spending categories*** (percentages)				
Curative	29.4	47.6	29.8	41.4
Reproductive and child health	21.8	12.2	17.1	3.3
Communicable disease control	14.1	6.2	35.2	14.1
Medical education and training	11.9	8.7	0.3	2.4
R&D	11.1	0.2	0.0	0.0
Administration	4.6	8.4	8.6	27.1
Capital expenditure	1.0	4.7	4.9	4.3

Source: Government of India (2005)

Notes: *Excludes Rs. 24.8 billion external support, of which Rs. 19.7 billion was to governments, and the rest to NGOs

**Includes spending by non-health ministries and agencies

***Only Ministry of Health and Family Welfare for Central government, and health ministries for states

Table 3: State Level Human Development Indices

State	1981	1981	1991	1991	2001	2001	2001-02 health spending	
	Value	Rank	Value	Rank	Value	Rank	Total (Rs. per capita)	Public (%)
Kerala	0.500	1	0.591	1	0.638	1	1,858	12.9
Punjab	0.411	2	0.475	2	0.537	2	1,530	16.8
Tamil Nadu	0.343	7	0.466	3	0.531	3	846	23.9
Maharashtra	0.363	3	0.452	4	0.523	4	1,011	19.4
Haryana	0.360	5	0.443	5	0.509	5	1,570	10.4
Gujarat	0.360	4	0.431	6	0.479	6	816	18.0
Karnataka	0.346	6	0.412	7	0.478	7	712	28.9
West Bengal	0.305	8	0.404	8	0.472	8	775	23.4
Rajasthan	0.256	11	0.347	10	0.424	9	597	30.4
Andhra Pradesh	0.298	9	0.377	9	0.416	10	1,039	17.5
Orissa	0.267	10	0.345	11	0.404	11	582	23.0
Madhya Pradesh	0.245	13	0.328	12	0.394	12	864	15.2
Uttar Pradesh	0.255	12	0.314	13	0.388	13	1,124	7.5
Bihar	0.237	14	0.308	14	0.367	14	779	11.8
All India	0.302		0.381		0.472			

Sources: Planning Commission (2002), Singh and Srinivasan (2005), Government of India (2005).

Endnotes

* This paper draws on work for a World Bank project assessing the impacts of subnational decentralization in India, and on my previous research, particularly coauthored work with M. Govinda Rao and T.N. Srinivasan. I am grateful to them both for the insights they have provided me in our collaborations. I am also grateful to Jonathan Rodden for his guidance and comments on the World Bank project. None of them, nor the World Bank or affiliated institutions is responsible for any errors or omissions, or the judgments and opinions expressed here.

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¹ These problems are not insurmountable: see, for example, Dulleck and Kerschbamer (2006).

² This section is based on Rao and Singh (2005), which provides detailed analysis and data on all aspects of India's federal system.

³ The Union, State and Concurrent Lists are in the Seventh Schedule, whereas the new responsibilities of rural and urban local governments are in the Eleventh and Twelfth Schedules, added through the 1993 amendments.

⁴ These points are made categorically in the report of the 12th Finance Commission (Finance Commission, 2004), in Chapter 8.

⁵ The India Health Care project in Andhra Pradesh (funded by the infoDev project of the World Bank) has used customized PDAs provided to the field staff of public health centers for medical database construction and patient tracking (Sastry, 2003). Health mapping exercises for information kiosks in Kerala are described in Parthasarathy et al. (2005).